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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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BAKER & MCKENZIE LLP PATENT DEPARTMENT 2001 ROSS AVENUE SUITE 2300 DALLAS, TX 75201			EXAMINER ETTEHADIEH, ASLAN	
			ART UNIT 2611	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/811,223	Applicant(s) LAKKIS, ISMAIL	
	Examiner Aslan Ettehadieh	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 August 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

NOTE

1. Please note that all references made herein to the instant application are made with respect to paragraphs of U.S. Patent Application Publication No. 2005/0157782, the publication corresponding to the instant application.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, all claimed subject matter in claims 1 – 40 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. For instance, a second pulser, combiner, etc. are not shown. The closest drawing to the claim is figure 35 only disclosing one pulser having the AND gate ANDing a pulse with a delayed version of itself. Also, applicants attention is made as to the specification where drawing are described, for instance paragraphs 235 – 241 disclose pulsers 3322-3328 where the drawing do not show pulsers 3322 – 3328. Applicant's attention for carefully reviewing the specification for such other indefiniteness in the drawings.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet,

and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1 – 40 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Subject matter of claims 1 – 40 are not disclosed in applications 10/120456 nor are they disclosed in application 10/010601. Further, for this application (10/811223), the specification with drawing do not support the claims. Figure 35 provides the most support for the claims, however, figure 35 is only one pulser having the AND gate ANDing a pulse with a delayed version of itself.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1 – 40 replete with a numerous 35 U.S.C. 112 second paragraph problems. A few examples are provided here:
5. Regarding claims 1 and 19, claims 1 and 19 recites the limitation “a data stream”. There is insufficient
6. Regarding claims 1 and 19, claims 1 and 19 recites the limitation “the first and second pulsers”. There is insufficient antecedent basis for this limitation in the claim.
7. Regarding claims 1, 5, 19, and 23, “suitable” is vague and indefinite.
8. Regarding claims 5, 23, “relatively narrow” is vague and indefinite.
9. Regarding claims 37 and 40, “narrow” is vague and indefinite.
10. Regarding claims 17 and 35, “passive” is vague and indefinite.
11. Regarding claims 18 and 36, “active” is vague and indefinite.

Applicant's attention for carefully reviewing pending claims for such other indefiniteness.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1 – 8, 19 – 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adams et al. (US 2004/0070433).

13. Regarding claim 1, Adams discloses a radio transmitter module, comprising: a pulser configured to receive a data stream comprising high and low signal values, and to generate a waveform comprising relatively narrow pulses corresponding to the high signal values (figures 1, 4 element A, paragraphs 4 – 6, 27 – 40); a second pulser configured to receive a data stream comprising high and low signal values, and to generate a waveform comprising relatively narrow pulses corresponding to the high signal values (figures 1, 4 element B, paragraphs 4 – 6, 27 – 40); a combiner couple with the first and second pulsers, the combiner configure to combine the waveforms generated by the first and second pulsers in order to generated a combined waveform (figures 1, 4, element AND gate, paragraphs 4 – 6, 27 – 40); and a filter configured to filter the waveform generated by the pulser and to shape the waveform so that it is suitable for transmission (Adams does not expressly disclose a filter configured to filter the waveform generated by the pulser and to shape the waveform so that it is suitable for transmission, however, it would have been obvious and also well known to one skilled in the art at the time of invention was made to use a filter configured to filter the waveform generated by the pulser and to shape the waveform so that it is suitable for transmission in the system of Adams to provide a more accurate signal. To make the record clear the following references show how it is well known to have a filter configured to filter the waveform generated by the pulser and to shape the waveform so that it is suitable for transmission: paragraph 94 of US 2004/0141561, figure 2 and paragraph 22 of US 2004/0071249, figure 1 and paragraph 3 of US 2004/0047430, figure 3 and paragraph 12 of US 2003/0227980, figure 12 of US 2002/0097790).

14. Regarding claims 2 and 20, Adams further discloses the high signal values in the data stream associated with the first pulser represent a logic "1" (figures 2 – 3, 5 – 8, paragraphs paragraph 32).

15. Regarding claims 3 and 21, Adams further discloses the high signal values in the data stream associated with the second pulser represent a logic "-1" (figures 2 – 3, 5 – 8, paragraphs paragraph 32, where the logic levels are disclosed as high and low, where in this example Adam is using values of "0" and "1", however, it would have been a matter of designing the system for the logic values to be "-1" instead of "0" in order to make signal conversion more accurate by having the low voltage point further away from the high voltage point).

16. Regarding claims 4 and 22, Adams further discloses the combiner is configured to combine the two waveform by subtracting the waveform generated by the first pulser from the waveform generated by the second pulser (figures 1, 4, element AND gate, paragraphs 4 – 6, 27 – 40; where the AND gate's equivalent function is subtracting, i.e. adding a negative is equivalent to subtracting).

17. Regarding claims 5 and 23, Adams further discloses a third pulser configured to receive a data stream comprising high and low signal values, and to generate a waveform comprising relatively narrow pulses corresponding to the high signal values (figure 4 element 414); a fourth pulser configured to receive a data stream comprising high and low signal values, and to generate a waveform comprising relatively narrow pulses corresponding to the high signal values (figure 4 element 420); a second combiner couple with the third and fourth pulsers, the second combiner configure to

combine the waveforms generated by the third and fourth pulsers in order to generate a combined waveform (figure 4 element 426); and a second filter configured to filter the waveform generated by the pulser and to shape the waveform so that it is suitable for transmission. Adams does not expressly disclose a filter configured to filter the waveform generated by the pulser and to shape the waveform so that it is suitable for transmission, however, it would have been obvious and also well known to one skilled in the art at the time of invention was made to use a filter configured to filter the waveform generated by the pulser and to shape the waveform so that it is suitable for transmission in the system of Adams to provide a more accurate signal. To make the record clear the following references show how it is well known to have a filter configured to filter the waveform generated by the pulser and to shape the waveform so that it is suitable for transmission: paragraph 94 of US 2004/0141561, figure 2 and paragraph 22 of US 2004/0071249, figure 1 and paragraph 3 of US 2004/0047430, figure 3 and paragraph 12 of US 2003/0227980, figure 12 of US 2002/0097790).

18. Regarding claims 6 and 24, Adams further discloses the high signal values in the data stream associated with the third pulser represent a logic "1" (figures 2 – 3, 5 – 8, paragraphs paragraph 32).

19. Regarding claims 7 and 25, Adams further discloses the high signal values in the data stream associated with the fourth pulser represent a logic "-1" (figures 2 – 3, 5 – 8, paragraphs paragraph 32, where the logic levels are disclosed as high and low, where in this example Adam is using values of "0" and "1", however, it would have been a matter of designing the system for the logic values to be "-1" instead of "0" in order to

make signal conversion more accurate by having the low voltage point further away from the high voltage point).

20. Regarding claims 8 and 26, Adams further discloses the combiner is configured to combine the two waveform by subtracting the waveform generated by the third pulser from the waveform generated by the fourth pulser (figures 1, 4, element AND gate, paragraphs 4 – 6, 27 – 40; where the AND gate's equivalent function is subtracting, i.e. adding a negative is equivalent to subtracting).

21. Regarding claims 11 and 29, Adams further discloses the first and second pulsers each comprise an AND gate configured to and the corresponding received data stream with a delayed version of the received data stream (figures 1, 4).

22. Regarding claims 12 and 30, Adams further discloses the output of the AND gate associated with the second pulser is inverted (figure 4, output of element 424).

23. Regarding claims 13 and 31, Adams further discloses the third and fourth pulsers each comprise an AND gate configured to and the corresponding received data stream with a delayed version of the received data stream (figures 1, 4).

24. Regarding claims 14 and 32, Adams further discloses the output of the AND gate associated with the fourth pulser is inverted (figure 4, output of element 424).

25. Regarding claims 15 and 33, Adams further discloses the first and second pulsers each comprise an edge detector (paragraph 4).

26. Regarding claims 16 and 34, Adams further discloses the third and fourth pulsers each comprise an edge detector (paragraph 4).

27. Regarding claim 19, Adams discloses transmitter, comprising: a baseband circuit configured to generate a plurality of data streams; and a radio transmit module coupled with the baseband circuit, the radio transmit module comprising (Adams does not expressly disclose, a baseband circuit configured to generate a plurality of data streams; and a radio transmit module coupled with the baseband circuit, however, it would have been obvious and also well known to one skilled in the art at the time of invention was made to use a baseband circuit configured to generate a plurality of data streams; and a radio transmit module coupled with the baseband circuit in the system of Adams to use the pulse generator in cellular communications. To make the record clear the following references show how it is well known to have a baseband circuit configured to generate a plurality of data streams; and a radio transmit module coupled with the baseband circuit: paragraph 2 of US 2004/0052312, paragraph 173 of US 2002/0176511, paragraphs 26, 42, 54 of US 2002/0126769): a pulser configured to receive a data stream comprising high and low signal values, and to generate a waveform comprising relatively narrow pulses corresponding to the high signal values (figures 1, 4 element A, paragraphs 4 – 6, 27 – 40); a second pulser configured to receive a data stream comprising high and low signal values, and to generate a waveform comprising relatively narrow pulses corresponding to the high signal values (figures 1, 4 element B, paragraphs 4 – 6, 27 – 40); a combiner couple with the first and second pulsers, the combiner configure to combine the waveforms generated by the first and second pulsers in order to generated a combined waveform (figures 1, 4, element AND gate, paragraphs 4 – 6, 27 – 40); and a filter configured to filter the

waveform generated by the pulser and to shape the waveform so that it is suitable for transmission (Adams does not expressly disclose a filter configured to filter the waveform generated by the pulser and to shape the waveform so that it is suitable for transmission, however, it would have been obvious and also well known to one skilled in the art at the time of invention was made to use a filter configured to filter the waveform generated by the pulser and to shape the waveform so that it is suitable for transmission in the system of Adams to provide a more accurate signal. To make the record clear the following references show how it is well known to have a filter configured to filter the waveform generated by the pulser and to shape the waveform so that it is suitable for transmission: paragraph 94 of US 2004/0141561, figure 2 and paragraph 22 of US 2004/0071249, figure 1 and paragraph 3 of US 2004/0047430, figure 3 and paragraph 12 of US 2003/0227980, figure 12 of US 2002/0097790).

28. Regarding claim 37, the steps claimed as method is nothing more than restating the function of the specific components of the apparatus as claim 1 above and therefore, it is rejected as in considering the aforementioned rejection for the apparatus claim 1.

29. Regarding claim 38, Adams further discloses adding the pulsed shaped waveforms to generate a single waveform and transmitting the single waveform (outputs of figures 1 and 4).

30. Regarding claim 39, Adams further discloses generating a waveform comprising narrow pulses for each to the plurality of data streams comprises ANDing each of the plurality of data streams with a delayed version of the data stream (figures 1, 4).

31. Regarding claim 40, Adams further discloses generating a waveform comprising narrow pulses for each to the plurality of data streams comprises using a edge detector to generate the waveforms (paragraph 4).

32. Claims 9 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adams et al. (US 2004/0070433) in view of Giannakis et al. (US 2005/0105594)

33. Regarding claims 9 and 27, Adams does not discloses an adder coupled with the first and second filters, the adder configured to add the shaped waveforms generated by the first and second filters.

In the same field of endeavor, however, Giannakis discloses an adder coupled with the first and second filters, the adder configured to add the shaped waveforms generated by the first and second filters (figure 4).

Therefore it would have been obvious to one skilled in the art at the time of invention was made to use an adder coupled with the first and second filters, the adder configured to add the shaped waveforms generated by the first and second filters as taught by Giannakis in the system of Adams to provide multi-band communications (paragraph 92).

34. Claims 10 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adams et al. (US 2004/0070433) in view of Shattil (US 2004/0086027)

35. Regarding claims 10 and 28, Adams does not discloses the waveform generated by the first filter is orthogonal to the waveform generated by the second filter.

In the same field of endeavor, however, Shattil discloses the waveform generated by the first filter is orthogonal to the waveform generated by the second filter (paragraph 130).

Therefore it would have been obvious to one skilled in the art at the time of invention was made to use the waveform generated by the first filter is orthogonal to the waveform generated by the second filter as taught by Shattil in the system of Adams to provide OFDM transmission.

36. Claims 17 – 18 and 35 – 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adams et al. (US 2004/0070433) in view of Rawlins et al. (US 2003/0128776)

37. Regarding claims 17 – 18 and 35 – 36, Adams does not discloses the combiners are active and passive combiners.

In the same field of endeavor, however, Rawlins discloses the combiners are active and passive combiners (paragraphs 158, 268).

Therefore it would have been obvious to one skilled in the art at the time of invention was made to use the combiners are active and passive combiners as taught by Rawlins in the system of Adams to allow for a more flexible pulse creation.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aslan Ettehadieh whose telephone number is (571) 272-8729. The examiner can normally be reached on Monday - Friday, 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on (571) 272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aslan Ettehadieh
Examiner
Art Unit 2611

AE


DAVID C. PAYNE
SUPERVISORY PATENT EXAMINER